

NOTES ON NORTH AMERICAN HYPO- CREALES—I. NEW AND NOTE- WORTHY SPECIES

FRED J. SEAVER

The genus *Hyponectria*, founded by Saccardo in 1878, differs from *Nectriella* in the subepidermal character of the perithecia. Six species have been referred by Saccardo to this genus, in various volumes of his *Sylloge Fungorum*, one of which, *Hyponectria Gossypii* (Schw.) Sacc., the only North American representative of the genus, has since been shown not to be a fungus at all.* This leaves the genus, at present, entirely unrepresented in North America so far as the records show.

In working over the material in the Ellis collection at the New York Botanical Garden, one species, *Nectriella Cacti* Ellis & Everh., has been found to show the true hypodermal character of the perithecia and should be referred to this genus. The ostiola form disc-like expansions above the surface of the epidermis but the perithecia themselves, while prominent, are covered by the thin epidermis of the host, a fact which was not mentioned by Mr. Ellis in his original description and one which apparently escaped his notice.

One species of this genus has also been collected by the writer in North Dakota on dead stems of herbaceous plants. As in the preceding, the perithecia of this species are prominent, though covered, forming minute, orange pustules scattered over the surface of the host. The ostiola also form the disc-like, slightly hairy expansions above the surface of the epidermis. This form is distinct in its spore characters from the preceding as well as from any of the species which have been previously described as representative of this small genus and is here offered as new, being now one of the two representatives of the genus for North America.

* U. S. Dept. Agric. Div. Veg. Phys. Path. Bull. 17: 51. 1899.

In addition to the above, one species of *Nectria* was collected and studied by the writer during the autumn of 1906 which it is thought best to describe at this time. The plants occur on partially decayed seeds of skunk-cabbage (*Spathyema foetida*) and were collected commonly during the autumn of the above date in a swampy place in the vicinity of New York City. The conidial phase which forms a whitish or pinkish mass over the surface of the decaying seeds, has much the gross appearance of some of the common species of *Fusarium* but differs in its microscopic details. The perithecia later appear in small clusters seated on the stromata formed by the conidial phase of the plant. During the past season, 1908, the locality in which this species was originally collected was visited once, but at that time none of the plants were found.

HYPONECTRIA Sacc. *Michelia* 1: 250. 1878

Perithecia globose or subglobose, subepidermal, often becoming erumpent; asci 8-spored; spores elliptical or subelliptical, hyaline, simple. Distinguished from *Charonectria* by the simple spores.

Type species: *Hyponectria Buxi* (DC.) Sacc.

Spores $5-6 \times 1.5-2$ mic., on stems of *Opuntia* sp.

1. *H. Cacti*.

Spores $10 \times 2-2.5$ mic., on herbaceous stems.

2. *H. dakotensis*.

1. ***Hyponectria Cacti*** (Ellis & Everh.)

Nectriella Cacti Ellis & Everh. Jour. Myc. 8: 66. 1902.

Perithecia minute, scattered, subepidermal, globose or subglobose, expanded above the epidermis into a disc-like ostium, perithecia red, with ostium lighter, whitish (in preserved specimens), about 200 mic. in diameter; asci cylindrical to clavate, 8-spored, $40-50 \times 3-4$ mic.; spores 2-seriate, simple, hyaline, straight or curved, $5-6 \times 1.5-2$ mic.

On stems of *Opuntia* sp.

TYPE LOCALITY: Alabama.

DISTRIBUTION: Known only from type locality.

SPECIMENS EXAMINED: Alabama, *Carver 584* (type).

2. ***Hyponectria dakotensis*** sp. nov.

Perithecia scattered or occasionally 2 or more in close contact, subepidermal, becoming more or less erumpent, long, covered

by the thin, whitish epidermis of the host, scattered over whitish patches on the substratum; ostiolum forming a disc-like expansion above the surface of the epidermis, with a distinct perforation in the center, slightly hairy, especially near the margin of the disc, where the hairs appear as a delicate fringe; perithecia 200 mic. in diameter; asci clavate, 8-spored, $30-45 \times 5$ mic.; spores mostly 2-seriate above, often 1-seriate below, fusoid, with usually 2 large oil-drops, and 1-2 smaller ones toward either end, $10 \times 2-2.5$ mic., paraphyses present, delicate.

On herbaceous stems (*Ambrosia trifida?*).

TYPE LOCALITY: Fargo, N. Dakota.

DISTRIBUTION: KNOWN only from type locality.

The perithecia of the present species are so minute that they are easily overlooked and were first noted in connection with the study of other species of fungi. They are scattered over whitish patches on the surface of the substratum and although the substratum is whitened where the perithecia occur there is apparently no superficial mycelial growth. Two collections of the species were made by the writer in the same locality near Fargo.

The genus *Charonectria* Sacc. differs from the present genus in possessing septate instead of simple spores. The presence or absence of the septum in case of very small spores is sometimes difficult to determine and in the North Dakota specimen the spores which have two large oil-drops often appear to be septate but no definite septum could be made out. The genus *Charonectria* is also represented in North America by a single species which is quite different from the species here described, not only in the presence of septate spores but in the size of both plants and spores as well.

***Nectria semenicola* sp. nov.**

Conidial phase consisting of a white mycelial growth which covers the substratum, finally heaping up at various points forming pinkish stomata; conidiophores erect, much branched, branches ascending perpendicularly, bearing at their summits, elliptical, hyaline conidia; conidia $5-7 \times 2-3$ mic., with 1-2 oil-drops.

Perithecia cespitose in small, dense clusters, with numerous scattered individuals; clusters confluent, often covering the most

of the exposed surface of the seed; individual perithecia nearly globose, with a minute, papilliform ostium, smooth or nearly so, 250 mic. in diameter, at first orange, fading in drying to golden-yellow or whitish; asci clavate, 40-50 mic. long, 8-spored; spores mostly 2-seriate or irregularly crowded, hyaline, 1-septate, a little constricted at the septum, $10-14 \times 3-3.5$ mic.

On partially decayed seeds of skunk-cabbage (*Spathyema foetida*).

TYPE LOCALITY: New York City.

DISTRIBUTION: Known only from type locality.

The perithecia and spores of this species do not differ materially from some of the species of the genus which occur on bark of various trees. However, the habitat, which is in itself interesting, and the peculiar appearance of the conidial phase seem to distinguish this form from any of the species examined.

A specimen collected in the propagating house of the New York Botanical Garden on beans which had been used for experimental purposes and allowed to partially decay corresponds so far as we can see with those occurring on the seeds of skunk-cabbage.

EXPLANATION OF PLATE II.

FIGS. 1-4. *Hyponectria dakotensis* sp. nov.

1. Habitat, showing plants natural size.
2. Ostium as it appears enlarged (surrounding epidermis diagrammatic).
3. Ascus with spores, $\times 2,000$.
4. Two spores showing oil-drops within, $\times 2,500$.

FIGS. 5-9. *Nectria semenicola* sp. nov.

5. Habitat, showing plants natural size.
6. Cluster of perithecia showing gross characters.
7. Conidiophore with conidia, $\times 400$.
8. Ascus with spores, $\times 2,000$.
9. A single spore, $\times 2,500$.